

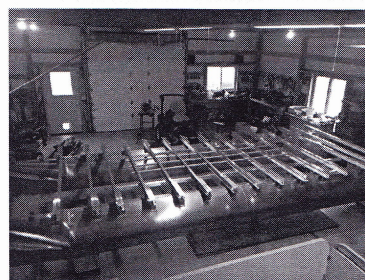
Hovertoon Project Update: 8/18–1/19

by Dick Schramer

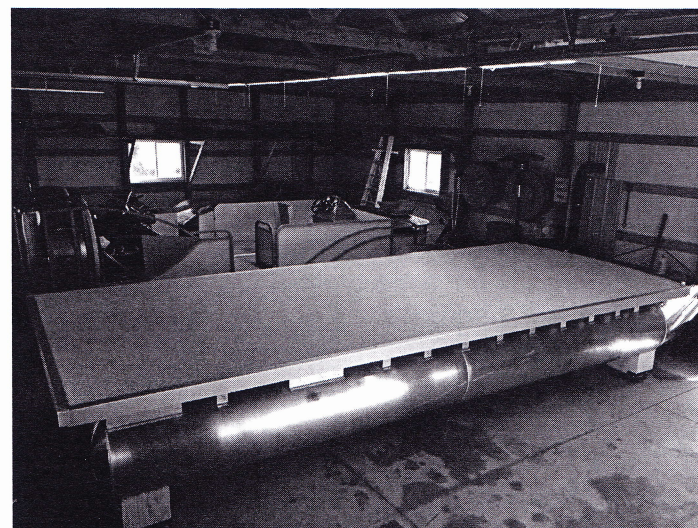
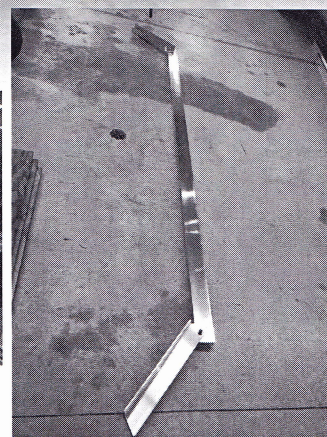
In the 2018 September/October Hovernews issue, the history of the Hovertoon test platform development up through mid-August of 2018 was covered. This article picks up from that point and includes the deconstruction of the plywood and 2x4 test platform in the spring of 2019 and the construction of the Hovertoon Prototype.

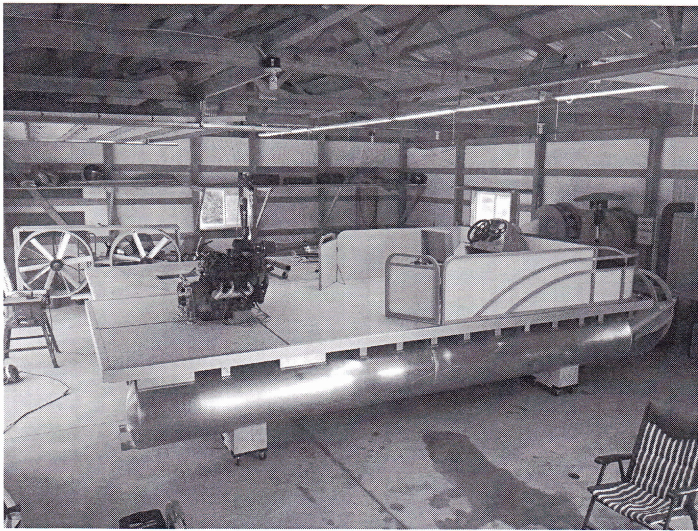
The new prototype was constructed with 25-inch diameter by 22-foot pontoons, aluminum C-channel joists and $\frac{3}{4}$ " marine plywood deck with vinyl flooring. Each floor "C" joist has its own pivot arms that are hinged on the outside using $\frac{3}{8}$ -inch bolts and bushings. Three conduits were built into the floor joists for fuel line, electrical, and main power cables from the battery located under the console back to the 4.3-liter engine and starter. Once the deck was finished, the test platform was jacked up so that the deck was the same height as the prototype, then all the motors and fencing components were transferred over to the new prototype as the old test platform was dismantled. By the end of June, all the components were transferred over and the test platform became a pile of lumber.

During July, landing gear was added which kept the Hovertoon elevated while retracting the pontoons. Having the pontoons retracted allowed for a scissor trailer to be rolled under the craft for transport. The helm was upgraded with a more respectable captain's chair. Other features required for safety were added that included fuel shut off valves for each engine and an electrical master switch. The console

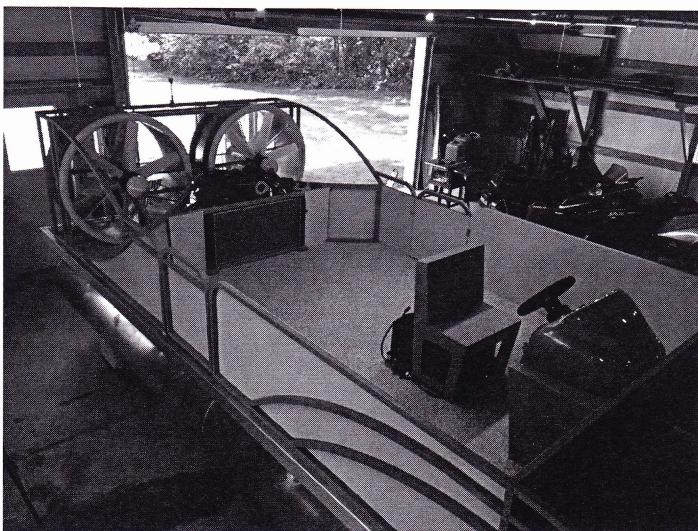
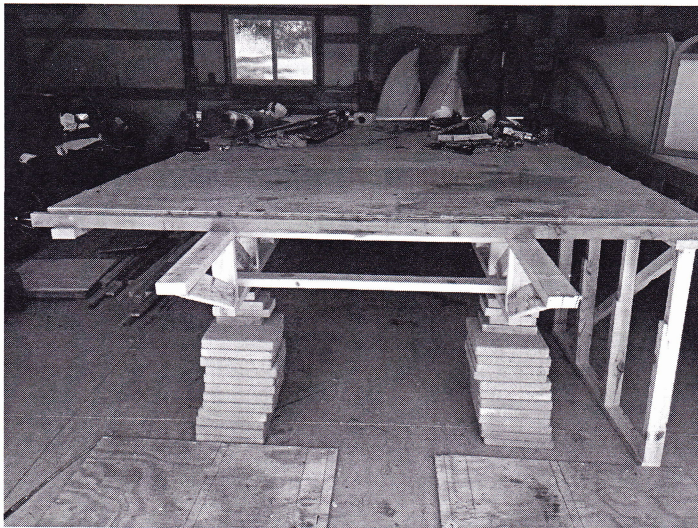


top was found on the surplus market and a set of Faria I/O gauges added that included a GPS speedometer. The 2008 4.3-liter chevy engine did not have a tack output and the gas tank sending and gauge impedance did not match up so adapters from Speedway Motors had to be purchased. A pressure sensor was added to prevent the pontoons from accidentally being retracted or deployed unless the skirt was inflated, to prevent undue stress on the 12v linear actuators.

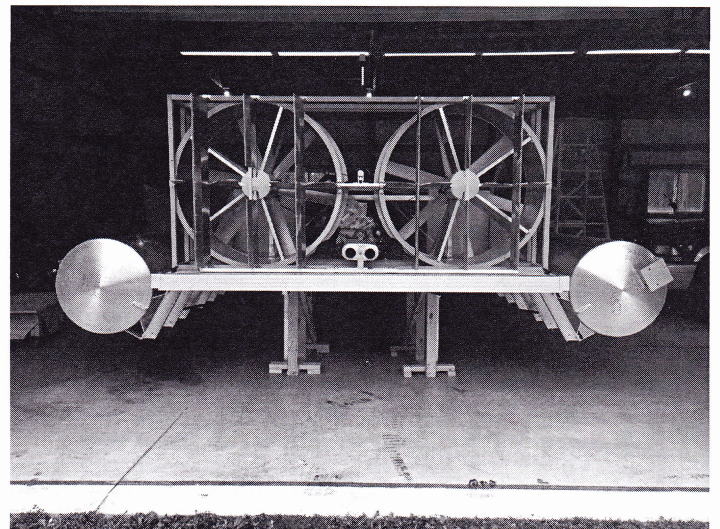




With the above done, the skirt sections were ready to be added. The 18-ounce per yard bag skirt comes in 4 pieces; front, rear, and the 2 sides which are all zipped together and connected to the craft using awning rail supplied from Oshkosh Tent and Awning. There are zippers on finger sections for each of the bag sections, then tie wraps are used to keep everything from un-zipping.

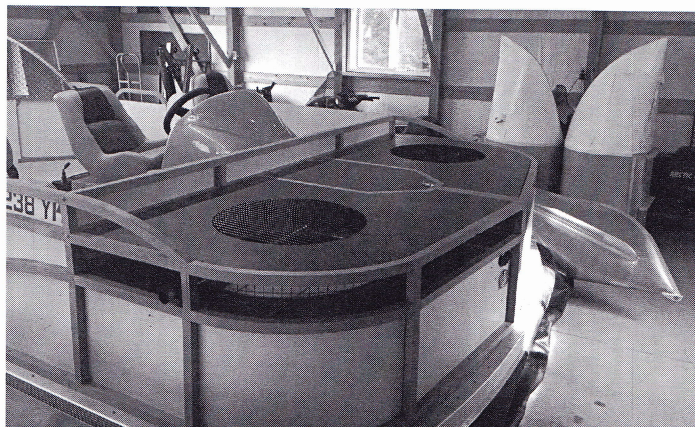
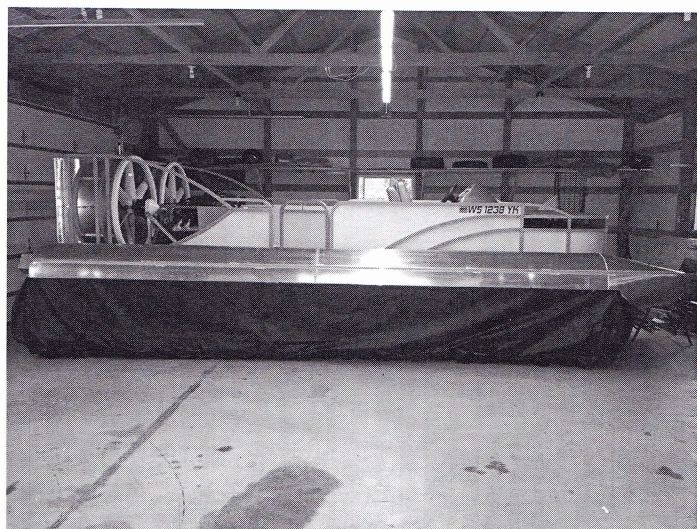
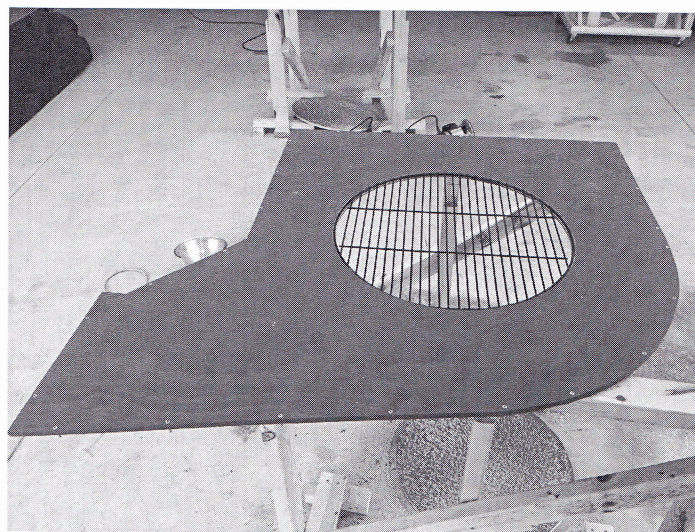
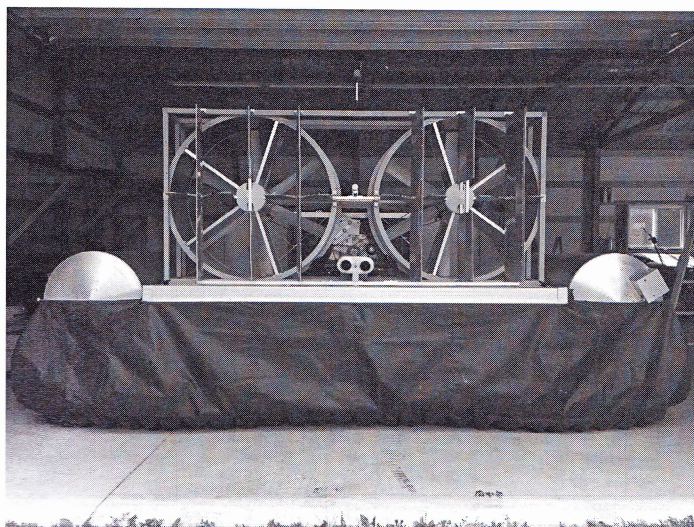


For August, there were several land tests done. The first time out, the craft was a little short of on lift and tended to "stick" on wet grass. To help get additional output from the lift fans, there were two air diverters added to each lift fan that made it a bit more efficient. Ultimately the two things that helped the lift fan output the most, were opening the inlet grate from $\frac{1}{2}$ inch screen to 2-inch screen which kept grass clippings from clogging the inlet, and to place a circular grate directly above each lift fan intake. Both of these modifications gained about a 10% improvement in bag pressure at the same 1200 RPM.



By the end of August, the first water tests were completed, and some modifications were needed for the skirt. The problems being there were no anti-scoop flaps in the rear and the bag to lift vents were in the center and not as a feed to each finger. Once those two things were corrected, the craft performed very well. By October, confidence was to the point where a 10-mile trip was taken with no chase boat.

Recently added, but not yet tested, are front thrusters. The

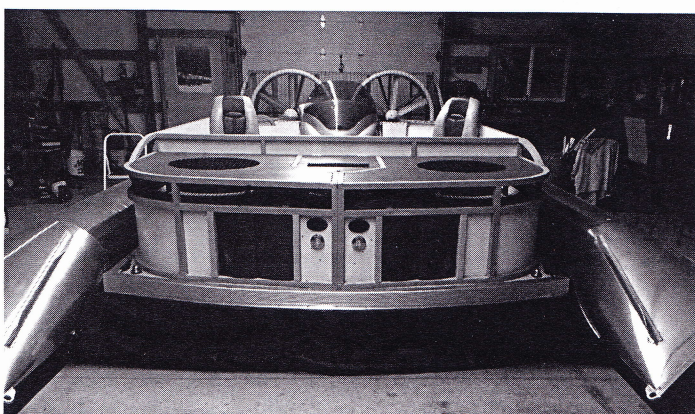
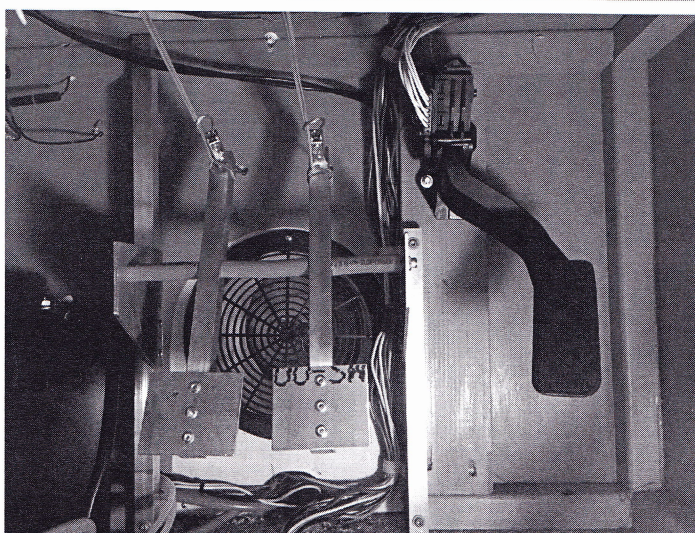


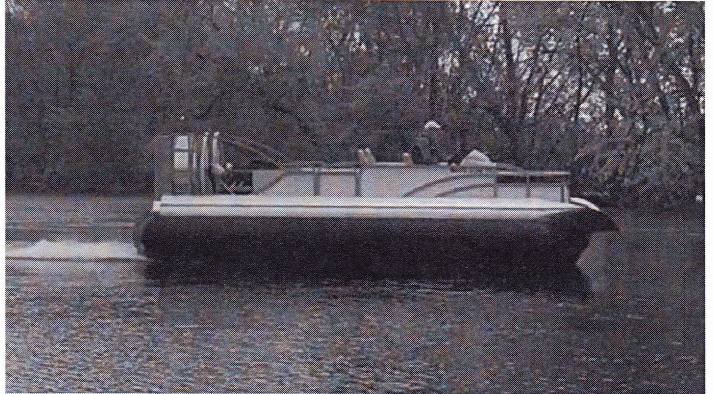
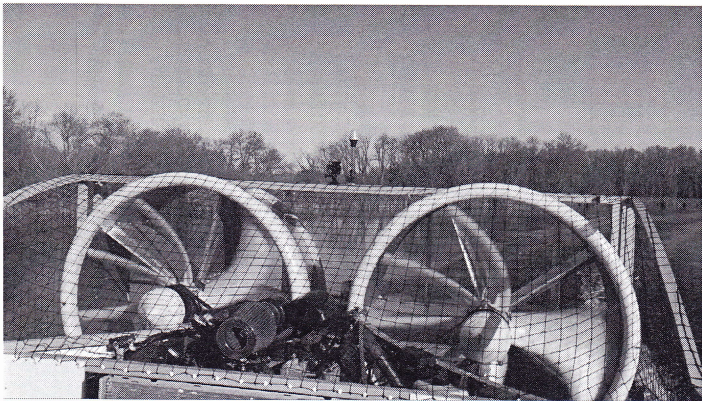
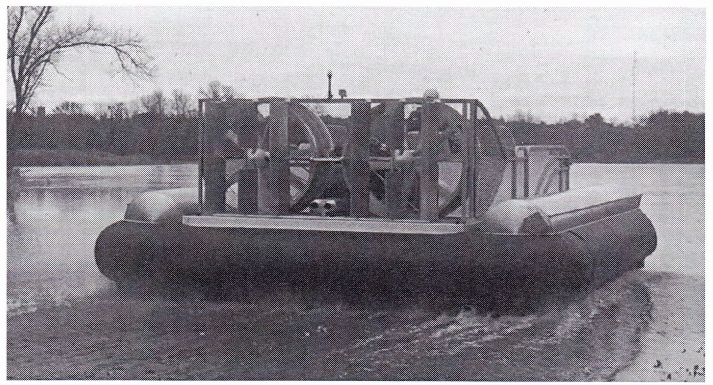
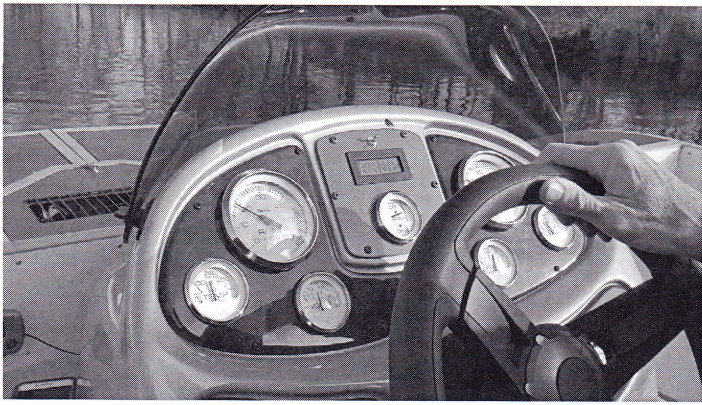
thrusters are controlled by foot pedals and when individually used, push the bow left or right, and when both are used, they act as a brake sending a blast of air straight forward.

With a very good working prototype, a pontoon manufacturer would be ideal to partner with to make the Hovertoon available to the public either as a rescue craft or recreational. Bimini top and side canvas can also be added along with some kind of windshield. For those fishermen out there, trap doors could be added in the floor to turn it into a portable ice fishing shack where thin ice or no ice would be no problem.

There are several videos available throughout the development of the Hovertoon by searching for "Hovertoon" on either Facebook, YouTube, or from the hoverto.com web site, where all the links are available.

If there are any questions, the contact email is Dick.Schramer@Hoverto.com.





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